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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/733,530

12/08/2000

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1966

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05/25/2010

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EXAMINER

AL HASHEMI, SANA A

ART UNIT

PAPER NUMBER

2156

MAIL DATE

DELIVERY MODE

05/25/2010

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GREGORY H. MILBY,
STEVEN C. GROLEMUND,
and SUSAN E. CHOO

Appeal 2009-005253
Application 09/733,530¹
Technology Center 2100

Decided: May 25, 2010

Before LEE E. BARRETT, JAY P. LUCAS, and STEPHEN C. SIU,
Administrative Patent Judges.

BARRETT, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-29. We have jurisdiction pursuant to 35 U.S.C. § 6(b).

We affirm-in-part.

¹ Filed December 8, 2000, titled "Managing Allocation of Temporary and Permanent Files in a Database System."

STATEMENT OF THE CASE

The invention

The invention relates to a database system having a persistent storage device storing a first file management context and a non-persistent memory device storing a second file management context. Both the first and second file management contexts are updated to allocate a permanent file, and the second file management context is updated without updating the first file management context to allocate a temporary file. Spec. 2, ll. 9-14.

Management overhead is reduced by performing certain tasks only if permanent files are allocated. Spec. 6, ll. 20-21. For example, when a temporary file is allocated, control logic "does not perform transaction locking, logging of data changes made to the maps, and performing tasks to provide data consistency across restart boundaries." Spec. 6, ll. 17-18.

Illustrative claim

Claim 1 is reproduced below for illustration:

1. A database system comprising:

a persistent data storage device storing a first file management context and having a pool of storage elements; and

a non-persistent memory storing a second file management context,

the first file management context to indicate allocated permanent files in the pool of storage elements, and

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the second file management context to indicate allocated temporary files and permanent files in the pool of storage elements.

The reference

Zheng US 6,571,259 B1 May 27, 2003

The rejection

Claims 1-29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zheng.

Appellants have submitted declarations under 37 C.F.R. § 1.131 to remove Zheng as a reference.

37 C.F.R. § 1.131

Issue

Are Appellants' declarations under 37 C.F.R. § 1.131 sufficient to remove Zheng as a prior art reference.

Principles of law

According to 37 C.F.R. § 1.131, a declaration submitted to establish invention of the subject matter of the rejected claim prior to the effective date of the reference on which the rejection is based (unless the rejection is based on a statutory bar), shall present a showing of facts such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the

reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing date of the application.

"Conception is the formation, in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is thereafter to be applied in practice." *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998).

The party trying to show reasonable diligence "must account for the entire period . . . until his reduction to practice[, actual or constructive]." *Griffith v. Kanamaru*, 816 F.2d 624, 626 (Fed. Cir. 1987). If periods of inactivity occur, each period of inactivity may be explained and excused for "reasonable everyday problems and limitations encountered by an inventor." *Id.* at 627. The evidence must be specific as to facts and dates. *Gould v. Schawlow*, 363 F.2d 908, 920 (CCPA 1966). The question of diligence is essentially one of fact. *In re Jolley*, 308 F.3d 1317, 1329 (Fed. Cir. 2002).

Diligence involves acts by both the inventor and the patent attorney. The patent attorney must show reasonable diligence. 3 D. Chisum, *Patents* § 10.07[4][e] (2010); *D'Amico v. Koike*, 347 F.2d 867 (CCPA 1965) (attorney diligence; an unexplained one month period of time during the critical period was found to be a lack of diligence); *Shindelar v. Holdeman*, 628 F.2d 1337, 1342 (CCPA 1980) (willing to "excuse" only about 3 months for preparing a patent application).

Findings of fact

A declaration by the inventors states that a document titled "NCR Invention Disclosure Record" was sent to Dan C. Hu on August 23, 2000, with instructions to prepare a patent application. The Examiner does not contest that the claimed invention is fully disclosed in that document.

A declaration by Mr. Hu states that he received the "NCR Invention Disclosure Record" on August 23, 2000; the disclosure was immediately placed in line to be prepared; that the number of applications in preparation at the time required that it take about three months to prepare a draft of the application; a draft was completed by November 24, 2000, and sent to the inventors for review on that date; that a second draft was completed and sent to the inventors on December 6, 2000; and that the application was filed on December 8, 2000.

Analysis

The Examiner finds that there is no evidence of conception because the "NCR Invention Disclosure Record" document has no signatures or dates and "the lack of signatures and dates raise clear doubts about the reliability and accuracy of information presented." Ans. 8. Appellants argue that the MPEP allows dates to be removed, but the Examiner finds no evidence that dates were ever present and were later removed. Ans. 9.

The Examiner does not dispute that the "NCR Invention Disclosure Record" describes the disclosed and claimed invention. Conception is a mental act. The NCR document is written evidence of conception at the

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time it was received by Mr. Hu on August 23, 2000; that is, Mr. Hu is a witness to the documents as received. Appellants only need to establish a date of conception before the filing date of Zheng. It would be a different situation if August 23, 2000, was after the filing date of Zheng. On the facts presented, there is clearly conception before the filing date of Zheng.

The Examiner finds that there is insufficient evidence of diligence. "Since the date of conception is not affirmatively established or confirmed by the inventors, the time lag from conception to contact with Mr. Hu cannot be determined with certainty." Ans. 9. Appellants argue that they only need to establish a date of conception before the filing date of the Zheng reference and do not need to explain the time before Mr. Hu received the document. Br. 5; Reply Br. 5.

Appellants are clearly correct on this point.

Nevertheless, although the Examiner's reasons are not persuasive, we are not convinced that the evidence establishes diligence. Attorney diligence is easier to show than inventor diligence, but we think more is needed than just the bare statement that the application was placed in line and that it took about three months to draft an application. We find that the times after the completion of the first draft on November 24, 2000, are sufficient to reasonably establish diligence from that time to the date of filing. However, we think more evidence is required to explain the time period before that. At a minimum, some statement is required in the declaration about internal procedures for handling applications to aver that applications were routinely taken up in order of receipt. We are reluctant to read that this was done into

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Mr. Hu's statement that the disclosure was "placed in line to be prepared." While three months is a not unreasonable amount of time for preparing an application, there is no general rule that three months is prima facie diligent. We think some effort should be made to explain normal office practice and workload so some reasonable inference can be made that are no unexplained gaps in time. Diligence is a question of fact and no formulas can be stated as to what kind and amount of facts are necessary. However, the facts here require us to assume too much. Accordingly, we find that Appellants have not established diligence so as to antedate Zheng.

Conclusion

Appellants' declarations under 37 C.F.R. § 1.131 are not sufficient to remove Zheng as a prior art reference.

ANTICIPATION

Claim 23

Appellants argue that the rejection of claim 23 should be reversed because Zheng has been removed as a reference. Since we conclude that Zheng has not been removed as a reference, the rejection of claim 23 is affirmed.

Claims 1-22 and 26-29

Issue

The Examiner finds that columns 1-3 of the block index 39 in the table structure of Figure 3 of Zheng corresponds to a "first file management

context" stored in a relational table where "[t]he relational table itself is a permanent storage device because the table itself is never erased." Final Office Action (FOA) 2. The Examiner finds that all of the columns of the table are a "second file management context" "stored in a cache, which is non-persistent memory." FOA 2.

Appellants argue that everything in Figure 3 is stored in memory, so the block index 39 fails to satisfy the limitation of "a persistent data storage device storing a first file management context." Br. 6. Appellants disagree with the Examiner's statement that the relational table is "persistent storage" because Figure 1 shows the file system index 37 having the block index 39 "in-memory" (non-persistent storage) as opposed to disk storage 22 (persistent storage). Br. 6-7. It is argued that a table cannot be considered a storage device, but is a data structure stored in a storage device. Br. 7. Appellants argue that independent claims 16 and 27 have a similar limitation. Br. 7.

Based on the contentions, the issue is:

Does Zheng teach "a persistent data storage device storing a first file management context"?

Independent claims 1, 16, and 27 stand or fall together.

Principle of law

"Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim. A prior art disclosure that 'almost' meets that standard may render the claim invalid

under § 103; it does not 'anticipate.'" *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (citations omitted).

Findings of fact

Zheng relates to a file server providing transaction processing to maintain data integrity in the event of a system crash.

As shown in Figure 1, the file server 20 includes disk storage 22, a storage layer 25, a file system cache memory 24, and a file system cache manager 34. The invention concerns efficient management of the file system cache 24 in such a way that the on-disk file structure in 22 is in a consistent state after a system crash. Col. 5, ll. 55-64.

"The file system cache 24 is managed by a file system cache manager routine 34 that keeps up to a certain number of file system blocks in *random access memory*." (Emphasis added.) Col. 6, ll. 1-3.

The file system cache manager 34 accesses an in-memory file system index 37. Index 37 has an upper level consisting of an in-memory directory and file mapping structure 38 that is similar to the on-disk directory structure, and a lower level which includes a block index 39 of the status of the storage blocks in the file system. Col. 6, ll. 32-50.

Analysis

Zheng clearly describes that the block index 39 is "in-memory" and that the file system cache manager routine 34 is in "random access memory." Random access memory and "in-memory" describe volatile or non-persistent memory. If Zheng intended that the memory was persistent memory it

would have said so, e.g., Zheng describes that "the buffer cache 26 can be nonvolatile, battery-backed semiconductor" (col. 5, ll. 29-31). Persistent memory could also be implied by disk storage, which is inherently persistent. We agree with Appellants that "[t]he disk 22 in Zheng is distinguished from the term 'memory,' also used in Zheng." Reply Br. 7.

The Examiner states that Appellants have not shown that the table is destroyed when power is shut off (Ans. 11). Appellants have shown that the block index 39 is stored "in-memory," not in disk storage. We agree with Appellants that a "person of ordinary skill in the art would clearly understand that an in-memory is not intended to be maintained across a power loss." Reply Br. 7. The Examiner has not shown why this is wrong. There is no indication or suggestion in Zheng that the block index 39 is stored in some form of persistent memory.

The Examiner states that "[t]he relational table itself is a permanent storage device because the table itself is never erased" (FOA 2) and "the table of FIG. 3 in Zheng et al. is in fact a form of persistent storage, by reason that the table is never destroyed and is used repeatedly to maintain a log of memory allocations" (Ans. 11). We agree with Appellants that a table is not a storage device, but is a data structure stored in a storage device. The Examiner does not point to anything in Zheng which teaches that the table is not lost when power is removed, a fundamental characteristic of a "persistent data storage device."

Therefore, the Examiner has failed to establish that the block index 39 in Zheng is stored in "a persistent data storage device."

Conclusion

The Examiner has not shown that Zheng teaches "a persistent data storage device storing a first file management context." Accordingly, the rejection of claims 1-22 and 26-29 is reversed.

Claims 24 and 25

Appellants argue that there is no teaching of updating one or both of the first and second file management contexts based on the state of a flag in a request. Br. 8.

The Examiner's rejection refers to the discussion of claim 20 which states that setting a bit from "0" to "1" is activation of a flag. FOA 4; Ans. 6. In response to Appellants' argument, the Examiner states that "as seen in FIG. 3, any of the binary digits or pointers in any one of the rows and columns can be updated, so both contexts are in fact capable of being updated." Ans. 12.

The Examiner does not address the actual claim language which requires a "request containing a flag to indicate a permanent file or a temporary file" (claim 24) and updating one or both of the first and second file management context based on the flag. The 1s and 0s in Zheng are not "flag to indicate a permanent file or a temporary file." Assuming that the block index 39 contains two file management contexts, the Examiner does not show that the contents are updated in response to a flag indicating a permanent or temporary file. Accordingly, the rejection of claim 24 and its dependent claim 25 is reversed.

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CONCLUSION

The rejection of claims 1-22 and 24-29 under 35 U.S.C. § 102(e) is reversed.

The rejection of claim 23 under 35 U.S.C. § 102(e) is affirmed.

Requests for extensions of time are governed by 37 C.F.R. § 1.136(b).
See 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART

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